

WE CLAIM:

- 1 1. A computer-implemented method for implementing a
2 hierarchy of component object model interfaces, comprising:
3 defining a hierarchy of component object model
4 interfaces, wherein an interface at a lowest level of the
5 hierarchy inherits from an interface at the highest level of
6 the hierarchy;
7 defining a first template class that is associated with
8 the highest level of the hierarchy;
9 defining a second template class that inherits from the
10 first template class and is associated with the lowest level
11 of the hierarchy; and
12 instantiating the second template class with an
13 interface as a template parameter.
- 1 2. The method of claim 1, wherein the second template
2 class inherits directly from the first template class.
- 1 3. The method of claim 1, wherein the second template
2 class inherits indirectly from the first template class.
- 1 4. The method of claim 1, further comprising defining a
2 plurality of intermediate classes in a single inheritance
3 arrangement, one of the intermediate classes inheriting from
4 the first template class, and the second template class
5 inheriting from another one of the intermediate classes.
- 1 5. The method of claim 4, wherein one or more of the
2 intermediate classes are template classes.

1 6. The method of claim 1, further comprising defining an
2 intermediate class, the intermediate class inheriting from
3 the first template class, and the second template class
4 inheriting from the intermediate class.

1 7. The method of claim 6, wherein the intermediate class
2 is a template class.

1 8. The method of claim 1, wherein the interface provided
2 as the template parameter is an interface at the lowest
3 level of the hierarchy.

1 9. The method of claim 1, further comprising:
2 extending the hierarchy of component object model
3 interfaces to include a new interface defined at the lowest
4 level of the hierarchy, wherein the new interface inherits
5 from the interface at the highest level of the hierarchy;
6 defining a third template class that inherits from the
7 first template class and is associated with the new
8 interface defined at the lowest level of the hierarchy; and
9 instantiating the third template class with the new
10 interface as a template parameter.

1 10. The method of claim 1, further comprising defining
2 ActiveX Template Library interface maps in the first
3 template class and in the second template class,
4 respectively.

1 11. The method of claim 10, further comprising defining a
2 plurality of intermediate classes in a single inheritance
3 arrangement, one of the intermediate classes inheriting from
4 the first template class, and the second template class
5 inheriting from another one of the intermediate classes.

1 12. The method of claim 11, wherein one or more of the
2 intermediate classes are template classes.

1 13. The method of claim 12, further comprising defining
2 ActiveX Template Library interface maps in the respective
3 intermediate template classes.

1 14. The method of claim 13, wherein the interface provided
2 as the template parameter is an interface at the lowest
3 level of the hierarchy.

1 15. The method of claim 14, further comprising:
2 extending the hierarchy of component object model
3 interfaces to include a new interface defined at the lowest
4 level of the hierarchy, wherein the new interface inherits
5 from the interface at the highest level of the hierarchy;
6 defining a third template class that inherits from the
7 first template class and is associated with the new
8 interface defined at the lowest level of the hierarchy; and
9 instantiating the third template class with the new
10 interface as a template parameter.

1 16. A computer-implemented method for implementing a
2 hierarchy of component object model interfaces, comprising:

3 defining a hierarchy of component object model
4 interfaces, wherein an interface at a lowest level of the
5 hierarchy inherits from an interface at the highest level of
6 the hierarchy;
7 defining a first template class that is associated with
8 the highest level of the hierarchy;
9 defining a second class that inherits from the first
10 template class and is associated with the lowest level of
11 the hierarchy; and
12 providing an interface of the lowest level of the
13 hierarchy as a template parameter to a template class
14 directly inherited by the second class.